

Appl. No. 09/847,357
Amdt. Dated April 4, 2005
Reply to Office action of January 27, 2005
Attorney Docket No. P13442-US2
EUS/J/P/05-3081

REMARKS/ARGUMENTS

Claim Amendments

The Applicant has canceled 1-17 without prejudice and claims 18-33 have been added. Applicant respectfully submits no new matter has been added. Support for the new claims can be found on page 7, line 16 – page 8, line 4; pages 12, line 4 – page 13, line 2 and page 15, line 12 – page 16, line 21. Accordingly, claims 18-33 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

Claim Rejections – 35 U.S.C. § 103 (a)

Claims 1-3, 11-15 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mitzlaff in view of Grubeck. The Applicant has canceled claims 1-17.

As discussed in a previous response Mitzlaff appears to disclose a method and apparatus for calibrating location-finding equipment (LFE) within a communication system. In summary, the Mitzlaff reference utilizes calibration terminals that include a remote unit coupled with an independent position determining system such as a GPS receiver (Col. 2, Lines 45-47) for calibrating a communication system. Error vectors generated using the calibration terminals are added to position estimates determined by LFE to provide a corrected position estimate. In response to periodic polling; the calibration terminals send a message containing the actual, independent system-determined location (GPS) (Abstract). Additionally, the terminals periodically broadcast a known sequence utilized by the LFE for determining a position estimate of the calibration terminal. The difference between the actual and LFE determined position estimates are utilized in the calculation of error vectors. (Col. 2, lines 45-55). The two measurements are compared to determine an error vector.

In contrast to the Mitzlaff reference's use of an independent location system, the Applicant's invention uses measurements from multiple mobile stations as input to more accurately estimate bias in order to refine the location of a particular mobile station. The Applicant's present invention determines a refined mobile station position using calculated biases. The calculated biases are determined in parallel with the position

Appl. No. 09/847,357
Amdt. Dated April 4, 2005
Reply to Office action of January 27, 2005
Attorney Docket No. P13442-US2
EUS/J/P/05-3081

calculation using location measurements from multiple mobile stations only, no GPS receiver. (Page 6, lines 1-7).

The Applicant respectfully asserts that Mitzlaff does not disclose using only measurements from multiple mobile stations in a network to refine the estimate of a mobile station position.

Grubeck is a commonly owned patent and according to C.F.R. §1.130, is disqualified as prior art (see attached declaration).

The Grubeck reference appears to disclose a method and apparatus for determining the position of a mobile station. Grubeck does not describe equations for bias errors, only for measurement errors in general. These measurement errors are the sum of errors, which are individual to each mobile and systematic errors that are common to all mobiles (i.e., base station clock errors). Grubeck describes a standard Taylor series procedure for position calculation; a procedure that is well known in GPS and other hyperbolic location techniques. The difference between the Applicant's invention and Grubeck is that Grubeck's technique is unable to detect bias errors using only one mobile with an unknown position.

In summary, the Applicant's invention does not rely on terminals that can position themselves or outside positioning systems. The key to the Applicant's invention is the use of multiple mobile stations to determine specific measurements. These multiple mobile stations measure more than the minimum number of base stations (some measurements are actually redundant) and use the measurements to estimate the bias parameters. The bias parameters are determined in parallel with the position calculation and used to refine the calculated position.

Claims 5, 6, and claims 4 and 7-9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mitzlaff in view of Grubeck and further in view of additional prior art references Wylie, Hall and Wimbush respectively. The Applicant has canceled claims 1-17.

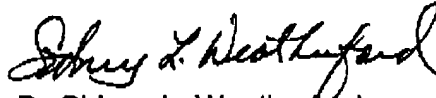
Appl. No. 09/847,357
Amdt. Dated April 4, 2005
Reply to Office action of January 27, 2005
Attorney Docket No. P13442-US2
EUS/J/P/05-3081

CONCLUSION

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for all pending claims.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,



By Sidney L. Weatherford
Registration No. 45,602

Date: April 4, 2005

Ericsson Inc.
6300 Legacy Drive, M/S EVR 1-C-11
Piano, Texas 75024

(972) 583-8656
sidney.weatherford@ericsson.com